

ABSTRACT

A nonlinear editing system for audio, video and /or other source materials comprises a system to define at least one time line representing the edit, the time line being represented in the editing system as an operator graph. The operator graph includes operators, representing sources and time-based effects, and time varying connections therebetween. For each period of the defined time line wherein the connections do not change, a expression tree comprising a simplified representation of the operators and the connections required to render that portion of the time line is extracted. Each expression tree can be examined to ensure that all of the required sources and/or connections are available to render that portion of the time line in real time and, if this is not the case, a determination can be made of which portions of the expression tree can be pre-rendered to an intermediate result, the intermediate result being substituted into expression tree to provide real time rendering.